Claims:

1. An apparatus for material deposition on a substrate, comprising:

a chamber;

a process gas distribution assembly within the chamber;

a power source coupled to the chamber for establishing a plasma; and

a movable substrate support member within the chamber having a support surface thereon and a thermally insulating layer on the support surface to support a substrate thereon.

2. The apparatus of claim 1, wherein the gas dispersion plate further comprises a heat reflective surface proximate the substrate.

3. The apparatus of claim 1, wherein the substrate support member comprises a heater.

4. The apparatus of claim 1, wherein the insulating layer comprises at least a first sheet and a second sheet bonded together to form a unified body.

5. The apparatus of claim 1, wherein the insulating layer is formed on the support surface.

6. The apparatus of claim 1, wherein the insulating layer is selected from the group of insulators, semi-conductors, and combinations thereof.

7. The apparatus of claim 1, wherein the insulating layer is selected from the group of ceramic, glass, polymer, and combinations thereof.

8. The apparatus of claim 1, wherein the insulating layer is bonded to the support surface of the support member.

9. The apparatus of claim 8, wherein the bond is an adhesive bond.

10. The apparatus of claim 1, further comprising a frame to hold the insulating layer on the supporting surface of the support member.

11. The apparatus of claim 10, wherein the frame further comprises:
a longitudinal portion having a roof portion and a base wherein the base is adapted to contact the insulating layer.

12. An apparatus for material deposition on a substrate, comprising:
a chamber;
a process gas distribution assembly within the chamber;
a power source coupled to the chamber for establishing a plasma;
a movable substrate support member within the chamber having a support surface thereon and a thermally insulating layer on the support surface to support a substrate thereon; and
a frame disposed on the thermally insulating layer that when raised by the movable substrate support to a processing position is electrically insulated from the chamber.

13. The apparatus of claim 12, wherein the gas dispersion plate further comprises a heat reflective surface proximate the substrate.

14. The apparatus of claim 12, wherein the substrate support member comprises a heater.

15. The apparatus of claim 12, wherein the insulating layer is selected from the group of insulators, semi-conductors, and combinations thereof.

16. The apparatus of claim 12, wherein the insulating layer is selected from the group of ceramic, glass, polymer, and combinations thereof.

17. The apparatus of claim 12, wherein the frame when placed in a processing position is positioned proximate the chamber sidewalls to minimize plasma leakage between the sidewalls and the frame during processing.

18. The apparatus of claim 12, wherein the frame is positioned adjacent a plurality of chamber sidewalls such that a gap is formed to prevent arcing between the frame and the chamber sidewalls.

19. The apparatus of claim 12, wherein the frame further comprises:
a longitudinal portion having a roof portion and a base wherein the base is adapted to contact the insulating layer.

20. The apparatus of claim 12, wherein the insulating layer is selected from the group of insulators, semi-conductors, and combinations thereof.

21. The apparatus of claim 12, wherein the insulating layer is selected from the group of ceramic, glass, polymer, and combinations thereof.

22. A method for heating a substrate, comprising:
supporting a substrate on a thermally insulating layer supported on a substrate support member within a chamber;
heating the substrate support member;
striking a plasma; and
uniformly heating the substrate.

23. The method of claim 22, heating the substrate comprises reflecting heat from a reflective surface toward the support member.

24. The method of claim 22, wherein the thermally insulating surface is adapted to uniformly maintain a differential temperature between the substrate and support member of less than about 20°C.

25. The method of claim 22, wherein prior to supporting, providing the thermally insulating surface on the support member.

26. The method of claim 22, wherein the thermally insulating surface is bonded to the support member.

27. The method of claim 22, wherein the thermally insulating surface is held on the support member by a frame member.

28. The method of claim 22, wherein the thermally insulating surface is selected from the group of insulators, semi-conductors, and combinations thereof.

29. The method of claim 28, wherein the thermally insulating surface is selected from the group of ceramic, glass, polymer, and combinations thereof.

30. The method of claim 22, wherein uniformly heating the substrate comprises:
heating both sides of the substrate using a first heating member to apply heat to a first substrate side and a second heating member to apply heat to a second substrate side, wherein the rate of heating between the first and second sides is substantially the same.

31. The method of claim 30, wherein the first heating member is a heated support member.

32. The method of claim 30, wherein the second heating member is a plasma.

33. The method of claim 30, further comprising heating the substrate to between about 150°C to about 450°C.

34. The method of claim 22, wherein striking a plasma further comprises supplying a process gas within the chamber.

35. The method of claim 34, wherein the process gas is selected from the group of SiH_4, TEOS, NH_3, H_2, N_2, N_2O, PH_3, and combinations thereof.

36. The method of claim 34, wherein striking a plasma further comprises the step of supplying an RF power source of between about 100 watts and about 10,000 watts.

37. The method of claim 36, wherein the RF power is supplied through an anode having a spacing of between about 400 mils to about 1500 mils above the support member.